

Curriculum Vitae

William C. Kuster

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Education

DeVry Institute of Technology: Correspondence course

Course completion 1977

- Area of study: electronic circuits and home electronics systems

University of Minnesota, Duluth, Minnesota

Master of Science, December 1974

- Area of study: Inorganic Chemistry
- Thesis title: Fluorescent Europium Complexes of tris-2-pyridylmethyl amine

Southeast Missouri State University, Cape Girardeau, Missouri

Bachelor of Science, June 1968

Research Experience

NOAA Earth Systems Research Laboratory, Chemical Sciences Division (CSD)

Research Chemist, Advisor: Dr. Christoph Senff

May – November 219

- Assist in safety upgrades at DSRC/CSD
- Assist in the renovation of the Platteville Atmospheric Observatory
- Sort, save, recycle and discard, as appropriate, contents of 5 shipping containers of historic data and laboratory equipment.

NOAA Earth Systems Research Laboratory, Chemical Sciences Division (CSD)

Research Chemist, Advisor: Dr. Carstem Warneke

May – November, 2018

- Dismantle Fritz Peak observatory laboratory, salvaging useful equipment, returning saleable material to the NOAA storeroom, recycling whenever possible, removing unusable material and preparing site for removal from government property list.

NOAA Earth Systems Research Laboratory, Chemical Sciences Division (CSD)

Research Chemist, Advisor: Dr. Joost A. de Gouw

May 2006-2010

- Operate, maintain, calibrate, and continually improve performance of a custom-built GC-MS used for in-situ measurements of a comprehensive set of volatile organic compounds.
- Collect and analyze complex data sets from field campaigns and laboratory experiments
 - *Field Campaigns:* TexAQS II/GoMACCS 2006 (Houston, TX), BEARPEX 2007 (Georgetown, CA), ICEALOT 2008 (Svalbard, Norway), SMURFS and FLAME 2009 (Missoula, MT), CalNex 2010 (Pasadena, CA). These experiments were aimed at understanding atmospheric processes in order to improve local/regional air quality as well as address various climate impacts.
 - *Laboratory Experiments:* comparison of gas-phase measurements via GC-FID, PTR-MS and PTR-IT-MS as well as cross-comparison of VOC gas standards
 - *Software Programs:* IGOR, LabView, Agilent ChemStation, Microsoft Office
- Present relevant findings to colleagues and policy-makers
- Publish results in peer-reviewed academic journal

NOAA Aeronomy Laboratory**Research Chemist, Advisor: Dr. Paul D. Goldan***August 1987 – 2006*

- Design, construct and operate gas chromatographic systems for aircraft, shipboard and land based in-situ sampling of volatile organic carbon (VOC) species.
- Design, construct and operate dynamic dilution system for calibration of gas chromatographic systems.
- Prepare part-per-million (PPM) level standards of various mixes of VOCs for calibration purposes
 - *Field Campaigns:* Scotia Campaign 1988 (State College, Pennsylvania), Rose I 1990 (Jachin, Alabama), Rose II 1992 (Jachin, Alabama), North Atlantic Regional Experiment (NARE)1993 (Portland, Maine), Caribou OH Experiment 1993 (Nederland, Colorado) Southern Oxidant Study (SOS)1994 (Nashville, Tennessee), Southern Oxidant Study II (SOS95)1995 (Nashville, Tennessee), NARE96, (Providence, Rhode Island), NARE97, (St. Johns, Newfoundland, Canada), Southern Oxidant Study III (SOS99) 1999 (Nashville, Tennessee), Texas Air Quality Study (TexAQS) 2000 (Houston, Texas), New England Air Quality Study (NEAQS) 2002 (Gulf of Maine), NEAQS II 2004 (Gulf of Maine).
- Present relevant findings to colleagues and policy-makers
- Publish results in peer-reviewed academic journal

Research Chemist, Advisor: Dr. Paul D. Goldan*August 1982 – 1987*

- Design, construct and operate gas chromatograph/flame photometric detection system for in-situ field measurements of biogenic sulfur emissions.
- Design, construct and operate dynamic dilution system for calibration of gas chromatograph.
- Prepare and calibrate permeation devices containing various sulfur compounds for calibration of the gas chromatographic system.
 - *Field Campaigns:* Biogenic Sulfur Experiment 1985 (Ames, Iowa; Celeryville, Ohio; Cedar Island, North Carolina), Sulfur Intercomparison Experiment 1986 (Pullman, Washington), Cheeka Peak Sulfur Experiment 1987 (Cheeka Peak, Washington).
- Present relevant findings to colleagues and policy-makers
- Publish results in peer-reviewed academic journal

Research Chemist, Advisor: Dr. Paul D. Goldan*August 1976 – 1982*

- Analyze stratospheric samples from balloon-borne sampling platform for part-per-trillion fluorocarbons harmful to the ozone layer.
- Assist in the preparation of evacuated containers for the collection of stratospheric samples, assist in launch, tracking and recovery of large (>one million cubic ft.) balloon-borne sample packages.
- Assist in the construction and improvement of gas chromatograph-electron capture detector (GC/ECD) system for stratospheric sample analysis.
- Design and construct a GC/ECD system for in-situ airborne sampling of halocarbons from an aircraft platform
 - *Field Campaigns:* Approximately 30 balloon launches from Laramie, Wyoming and Palestine, Texas between 1976 and 1982. Western Pacific science ship cruise sampling tropospheric halocarbons along the equator 1978.
- Present relevant findings to colleagues and policy-makers
- Publish results in peer-reviewed academic journal

First Author Publications in Peer-Reviewed Journals

Title: QUANTITATION OF THE LOSSES OF GASEOUS SULFUR-COMPOUNDS TO ENCLOSURE WALLS

Author(s): KUSTER, WC; GOLDAN, PD

Source: **Environmental Science & Technology** Volume: 21 Issue: 8 Pages: 810-815 Published: **AUG 1987**

Title: Intercomparison of volatile organic carbon measurement techniques and data at La Porte during the TexAQS2000 Air Quality Study
Author(s): KUSTER, WC; JOBSON, BT; KARL, T; et al.
Source: **Environmental Science & Technology** Volume: 38 Issue: 1 Pages: 221-228 Published: JAN 1 2004

Title: CONTROLLED ENVIRONMENT PORTABLE GAS-CHROMATOGRAPH FOR INSITU AIRCRAFT OR BALLOON-BORNE APPLICATIONS
Author(s): KUSTER, WC; GOLDAN, PD; FEHSENFELD, FC
Source: **Journal of Chromatography** Volume: 205 Issue: 2 Pages: 271-279 Published: 1981

Title: Inter-comparison of laser photoacoustic spectroscopy and gas chromatography techniques for measurements of ethene in the atmosphere
Author(s): KUSTER, WC; HARREN, FJM; DE GOUW, JA
Source: **Environmental Science & Technology** Volume: 39 Issue: 12 Pages: 4581-4585 Published: JUN 15 2005

Title: TROPOSPHERIC HALOCARBON, N₂O AND CH₄ MEASUREMENTS MADE AT SEA NEAR EQUATOR WITH A PORTABLE DUAL-CHANNEL GAS CHROMATOGRAPH
Author(s): KUSTER, WC; MCFARLAND, M; SCHMELTEKOPF, AL
Source: **Transactions-American Geophysical Union** Volume: 59 Issue: 12 Pages: 1077-1077 Published: 1978

Co-author on 152 other peer-reviewed journal publications

Professional References

Provided upon request